



California Energy Commission's Climate Change Program & Activities

**Integrated Energy Policy Report Workshop
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Early Efforts focused on Climate Change Inventory & Impacts

- California Legislature in 1988 directed the Energy Commission to study potential impacts of a global warming trend (SB4420, Sher)
- Commission staff produced first statewide GHG emissions inventory October 1990
- The Energy Commission published *“Global Climate Change: Potential Impacts and Policy Recommendations”* in December 1991

California Climate Action Registry

The logo for the California Climate Action Registry is located in the top right corner. It features a blue silhouette of the state of California, with the words "California Climate Action Registry" written in a smaller, blue, sans-serif font to its left.

- The Legislature in 2000 directed the Resources Agency to create a non-profit organization to register voluntary GHG emission inventories (SB 1771, Sher)
- Establish a State and Registry approval process for third-party service providers
- Report direct and indirect CO₂ emissions
- Report other Kyoto gases after three years

State to Support Voluntary GHG Emissions Reports at Registry

The State will use its best efforts to ensure that organizations that register emissions results that are certified receive appropriate consideration under any future international, federal, or state regulatory scheme relating to greenhouse gas emissions.

Senate Bill 1771

Inventory of GHGs

- Required the Energy Commission to update its 1998 report of statewide GHG emissions and compare with other states and countries
- Update the GHG inventory every five years
- Develop trends of GHG emissions reductions and the influence of energy and air policies
- Convene an interagency task force of state agencies with jurisdiction over matters affecting climate change
- Establish a climate change advisory committee

State Has a Multi-Agency Climate Change Team

- CA Energy Commission
- CA Air Resources Board
- Dept. of Water Resources
- Dept. of Transportation
- Dept. of Forestry and Fire Protection
- Dept. of Food and Agriculture
- Integrated Waste Management Board
- Dept. of Fish and Game
- State Water Resources Control Board
- Dept. of General Services
- Technology Trade and Commerce Agency
- Office of Planning and Research

Energy Technology Export Program

- Assist Small & Mid-Size CA Companies
- Facilitate GHG credits to finance clean energy & efficiency projects
- Focus on clean power technology, energy efficiency, and renewable energy
- Asia and Latin America Concentration

Recent Export Program Projects

Renewable Energy

- Wind Power Projects (16.5 MW) - Greece
- Geothermal Power Plant (5 MW) – Vanuatu
- Methane-to-Power (1.5 MW) - Thailand

Energy Efficiency

- Industrial Cogeneration (12 MW) - Thailand
- Hotel Energy Efficiency Retrofits - Mexico and Panama

Climate Change Research & Development Efforts

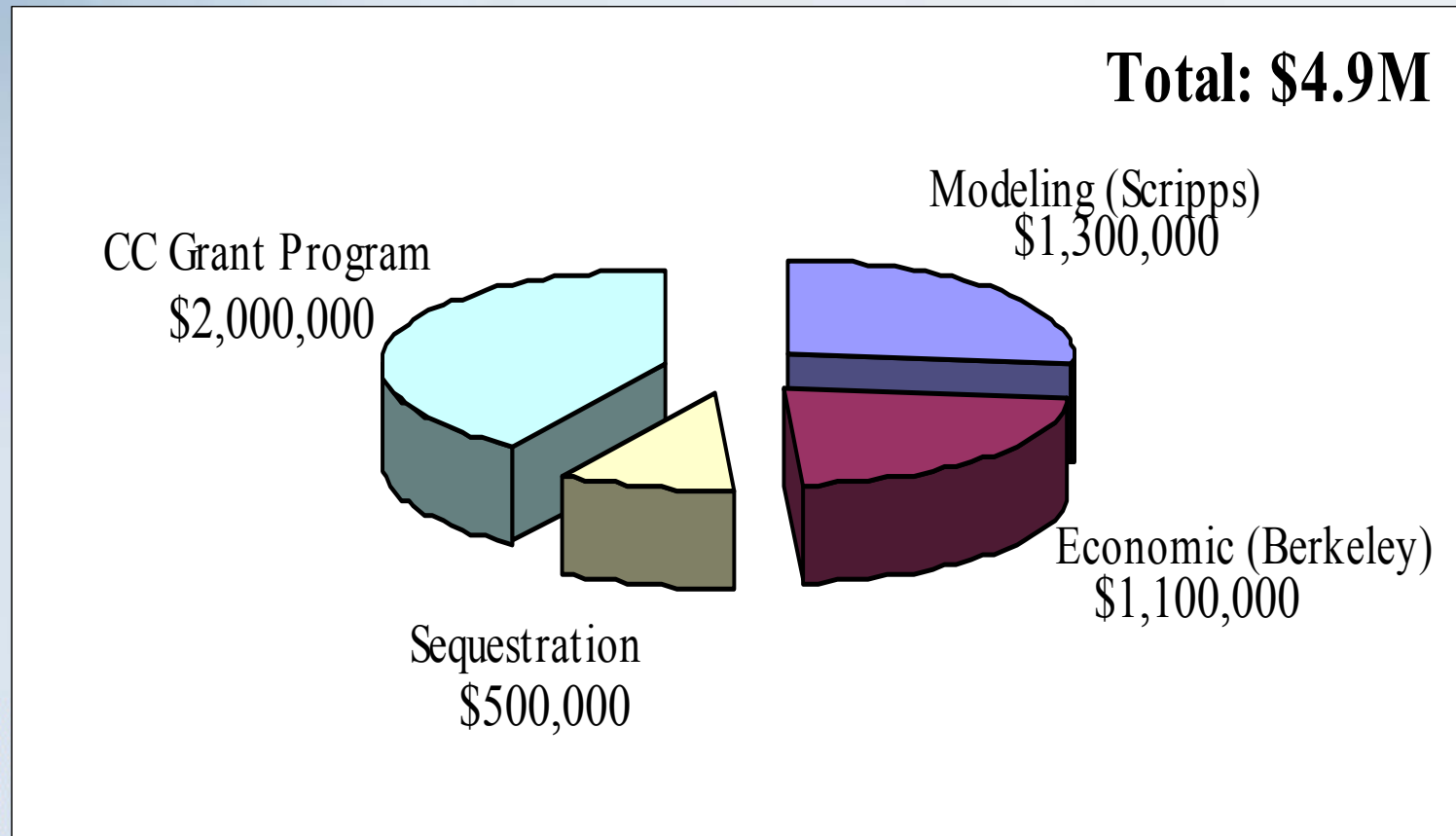
- Legislation in 1996 created the Public Interest Energy Research Program (PIER) at the Energy Commission
- One focus is climate change research
- Improve our understanding of climate science, environmental and economic impacts
- Produce policy-relevant research that will allow the state to develop sound emission mitigation and climate adaptation strategies

Current PIER Climate Projects

Project	Amount (\$ thousand)	Contractor/ collaborators
Assessment of impacts of GCC in CA	2,159	EPRI, CDF, CDFA, CDWR
GHG Emission Inventory	120	ICF, Transportation Division, Resources Agency, CALEPA
Indirect emissions, metrics, and case studies (three CA entities)	340	LBNL, Registry, Transportation Division
Carbon market opportunities in CA	300	Winrock/EPRI CDF/CDFA
Soil carbon sequestration	250	UC/Kearney CDFA
Climate Monitoring, Analyses, and Modeling	1,447	Scripps/UC San Diego, CDWR, NOAA, NSF
Integrated Economic Analyses	1,100	UC Berkeley, NOAA

Total: \$5,716,000

2002-03 Climate RD&D Budget



Senate Bill 812 – Sequestration of CO₂ (Statutes of 2002, Sher)

- California Climate Registry to adopt protocols for accounting, reporting, and certifying carbon stocks and CO₂ emissions sequestered by forest conservation and reforestation of native forests in California
- Project lands must be permanently dedicated to forest use through restrictions granted in perpetuity
- Project activities that are reported must exceed those already required

Renewable Portfolio Standards (SB1078, Sher 2002)

- Requires that 20 percent of retail sales of electricity be provided with renewable energy by Dec 31, 2017
- Electrical Corporations shall increase their portfolio of renewable sources by at least 1% of retail sales per year
- Once an Electrical Corporation achieves 20%, it is not required to increase procurement in the following years

Assembly Bill 2076: Petroleum Dependence (Statutes of 2000, Shelley)

- Forecast gasoline & diesel consumption in: 2010 and 2020
- Develop statewide goals for reducing growth in demand for petroleum fuels
- Intent is to address fuel price volatility, rising fuel demand, and limits on State's refining capacity
- Energy Commission & Air Resources Board to recommend strategies for reducing the State's dependence on petroleum

Reducing Dependence on Petroleum

Broad range of ideas:

- **Improve energy efficiency of vehicles**
- **Petroleum substitutes – alcohol, biodiesel**
- **Fuel displacement – fuel cells, grid hybrids**
- **Fuel pricing options**
- **Expanded use of public transit**
- **Increased telecommuting**
- **Voluntary accelerated vehicle retirement**
- **Incentives to purchase fuel efficient vehicles**

Assembly Bill 1493 – Vehicle GHGs (Statutes of 2002, Pavley)

- Air Resources Board shall adopt regulations by January 1, 2005 that:
“achieve the maximum feasible and cost-effective reduction in GHGs emitted by passenger vehicles and light-duty trucks”
- Provisions to coordinate with the California Climate Action Registry on protocols for crediting those that take early actions
- Coordinate efforts with Energy Commission and an interagency task force on climate change

Internet Resources

- **California Energy Commission**
 - **www.energy.ca.gov/global_climate_change/index.html**
- **Air Resources Board**
 - **www.arb.ca.gov/gcc/gcc.htm**
- **California Climate Action Registry**
 - **www.climateregistry.org**
- **US Environmental Protection Agency**
 - **www.epa.gov/globalwarming/index.html**
- **Intergovernmental Panel on Climate Change**
 - **www.ipcc-nggip.iges.or.jp**

SUMMARY

- **California has policies, legislation, and programs that will reduce its emissions of greenhouse gases and prepare for changes**
- **California is looking for increased energy efficiency and new technologies to achieve reductions in its GHG emissions**
- **California expects to almost double its use of renewable energy in 15 years**
- **Promote removal of CO₂ by increased efforts towards forest conservation and reforestation**